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Are Credences Thoughts about Probability? A Reply to the Inscrutable Evidence Argument

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The Inscrutable Evidence Argument targets the thesis that credences are thoughts about evidential probabilities (**CTEP**). It does so using cases where one knows one's evidence speaks either strongly in favor of or strongly against a proposition, but one doesn't know which; in such cases, it seems possible to have a middling credence in that proposition even though one doesn't think the probability of the proposition is near 50%—contra **CTEP**. In this paper, I defend **CTEP** by conceiving of the thoughts involved differently than usual. My diagnosis of the argument turns on appreciating the difference between believing and accepting (in the sense of Bratman 1992) that a proposition has probability *n*, where accepting is context dependent and allows for guidance in action without commitment to truth. I develop this diagnosis in two directions, one according to which acceptances of probability-involving propositions are credences and another according to which they aren't. Both views elude the Inscrutable Evidence Argument and are compatible with **CTEP**.

1. Introduction

Degrees of confidence, or credences, play a central role in much epistemological theorizing. Because they play such a central role, it would be good to understand what credences are. One option is that they are not genuine mental states but are theoretical posits that play a role in explaining human behavior.[1] Another option is that credences are states of mind and that they are irreducible to other mental states (though they may be reducible to physical or brain states); they

1. This view has been associated with early luminaries of subjective probability and decision theory. But it isn't clear that figures like Ramsey (1926/2011) and de Finetti (1937) took this extreme view, rather than one according to which credences are genuine mental states which should be conceived of in a behaviorist-like way.

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would be found in a list of the fundamental kinds of attitudes that humans have. A third possibility is that credences are mental states, but that they are reducible to more fundamental mental states. A natural version of this view says that every credence is fundamentally a thought about the probability of a proposition. For instance, Amy's credence of degree .5 that her package was delivered is fundamentally a belief in the proposition that it is 50% probable that her package was delivered (using an example from Konek 2016). This is the view that I will investigate and defend from a popular objection.

Despite increased discussion of and advocacy for this view,[2] it is not very popular. It faces multiple objections.[3] Perhaps the most cited is that there is no interpretation of probability that could feature in the propositional contents of beliefs which would allow them to play the same role as credences (Maher 1986: 367–368; Christensen 2004: 18–20; Ross 2006: 188–190; Eriksson & Hájek 2007: 206–207; Staffel 2013: 3537; Konek 2016: 513–514; Moss 2018: 2). As used here, an *interpretation* of probability is something like a concept or notion of probability.

Support for this objection is often spelled out in a piecemeal way. Authors catalogue common interpretations of probability—like quantum, relative frequency, propensity, and subjective—and claim that a belief about probability of this or that sort does not play the role of a credence. Moss claims that credences "are not full beliefs about objective chance facts" (2018: 2). For instance, suppose Amy is wondering whether her package was delivered and forms a credence of degree .5 that it was. Her credence is not a thought that the quantum chance that her package was delivered is 50%; since we're talking about delivery in the past, the package was either delivered or it wasn't. So, the objective chance that the package was delivered is either 0% or 100%, and Amy knows this. Christensen adds that credences are not beliefs about relative frequencies or propensities (2004: 18–20). In the case of Amy's package, there are no plausible actual frequencies for the belief to be about. And the hypothetical frequency path appears to get the subject matter of her thought wrong; it is not a thought that the ratio of possible states of affairs where her package was delivered to overall possible states of affairs is 50%. Christensen also argues that credences are not, on pain of circularity, beliefs about one's own subjective probabilities, or credences (see also Ross 2006: 189). It can't, without circularity, be that Amy's credence of degree .5 that her package was delivered is fundamentally a belief that she has

2. Moon and Jackson (2020) and Buchanan and Dogramaci (forthcoming) defend versions which focus on beliefs (see also Lance 1995; Dogramaci 2018; Lennertz 2021; 2023). Moss's nearby position says the contents of these thoughts are not propositions (2018).

3. These include, at least, arguments from linguistic data about terms like 'might' and 'likely' (Yalcin 2007; 2011), the conceptual capacities of young children and animals (Price 1986: 19; Frankish 2009; though see Moon & Jackson 2020 for a reply), propositions which border on ungraspability (Jackson 2022), and certain sorts of triviality results (Russell & Hawthorne 2016; Schroeder 2018; Goldstein 2019; though see Lennertz 2023 for a reply).

credence of degree .5 that her package was delivered. Furthermore, Maher notes that such beliefs would have the wrong subject matter—Amy's own mental state rather than the world (1986: 367).

I find these considerations convincing. But things are not so simple for another interpretation: *evidential* probability—the degree to which a body of evidence supports a proposition.[4] This is an objective notion, yet it might provide us with the tools to make sense of credence. It is somewhat plausible, for example, that Amy's credence of degree .5 that her package was delivered is a thought about the degree to which the evidence supports that her package was delivered. So, in this paper I'll explore this view:

> **Credences are Thoughts about Evidential Probabilities (CTEP)**: Every credence is fundamentally a thought about the evidential probability of a proposition.[5]

It would be nice to have a definition or foundational account of evidential probability. This would help dispel some reasonable questions we might have about it: How do we know there is any such notion? More precisely, how do we know that our thoughts about evidential support can be modeled by a function that assigns real numbers to propositions—and moreover a function with probabilistic structure? How could there be such a spooky thing as a single probability function that encodes the evidential relations between propositions? And even if there is such a function, how could we come to have any reasonable thoughts about it?

Full answers to these questions are important. But they are not the topic of this paper. I'll follow Williamson (2000: 209–213; see also Buchanan & Dogramaci forthcoming: 3) in taking a notion of evidential probability for granted and seeing what work it can do. Additionally, as I'll discuss in a bit more detail in

4. See (Lance 1995: 174). This is related to what many call "epistemic probability" (Climenhaga 2020; Lance 1995: 173; Moon & Jackson 2020).

5. For those without a grasp of the concept *credence*, it is helpful to think that "I have a 50% credence that it will rain" means the same thing as "I am 50% confident that it will rain." The concept of a credence is the same as the concept of a degree of confidence. And we have ordinary intuitive practices of ascribing degrees of confidence and of predicting how people with specific degrees of confidence will act in different situations. These practices and predictions can be directly carried over to credences. I say this to strike a contrast with **CTEP**, which doesn't aim to be a definition of 'credence' or explanation of the concept *credence*. Rather it is a generalization about the metaphysical status of credences and their relationship to other thoughts (with belief being the paradigmatic example of another thought). A common way of trying to refute **CTEP** is to show that there is a difference in our practices of ascribing credences and thoughts about probability or in our predictions about how people will act given credences and thoughts about probability. Such a strategy would make no sense if **CTEP** were taking 'credence' to be in the first instance *defined* as a thought about probability.

the next section, we talk and reason as if there is such a notion (Buchanan & Dogramaci forthcoming: 21–22). We say things like, "It's 50% likely that the package was delivered" and "John brought an umbrella because he thought it was 75% probable that it would rain." I intend to take these ascriptions at face value, and I think, at face value, these are evidential claims.

Most importantly, this paper is a response to a common argument against **CTEP**, which I'll call the "Inscrutable Evidence Argument." And that argument, rather than pressing the deep and challenging questions raised in the previous paragraph, grants the **CTEP** theorist the coherence and applicability of a notion of evidential probability. It then argues that credences could not be beliefs about this notion. In this paper, I'll explain the Inscrutable Evidence Argument. Then I'll develop a response to it, the key to which is conceiving of the 'thoughts' mentioned in **CTEP** in a different way than is traditional in the literature.

2. In favor of CTEP

Defending **CTEP** from objections only deserves our time if there is a prima facie case in its favor. There are potential theoretical advantages of accepting **CTEP**. In this section, I'll briefly survey a few to motivate further consideration of the view.

First, **CTEP** easily explains complex versions of credences. Consider the ascription, "Amy thinks it is 50% likely that her package was delivered if it is at least twice as likely that her mailman returned from vacation as it is that the post office lost the package."[6] The thought ascribed seems to have more logical complexity than an ordinary credence. It is natural to explain such logical complexity in terms of the content of such a thought. And this is exactly what **CTEP** does. According to **CTEP**, what is ascribed to Amy is a thought with the content that it is 50% probable that her package was delivered if it is at least twice as probable that her mailman returned from vacation as it is that the post office lost the package. A view which doesn't reduce credences to other thoughts can't avail itself of this ordinary, straightforward explanation; it can't explain the

6. One might argue that this sentence is used to ascribe something that is not best described as a credence or credal attitude. However, it's widely accepted that one of two natural ways of ascribing ordinary credences is with these sorts of statements, e.g., "Amy thinks it is 50% likely that her package was delivered." (The other natural way is with explicit confidence reports, e.g., "Amy is 50% confident that that her package was delivered.") Likewise, it's widely accepted that sentences like "Amy thinks it is 50% likely that her package was delivered, if the deliveryman fixed his truck" are used to ascribe conditional credences. Given this, it is natural to think that sentences like those in the main text, where there is greater complexity in the antecedent, are used to ascribe credal attitudes. In other work, I argue at greater length that ascriptions like those in the main text shouldn't be thought of as addressing a different subject (Lennertz 2021: 193–194).

complexity as logical complexity of the content of an ordinary attitude. An obvious way to go for one who rejects **CTEP** would be to posit a complex and novel attitude which takes three contents and is one a person has when, according to their credal state, the first content is 50% probable if the second content is at least twice as probable as the third content. But it is easy to see that these kinds of attitudes would need to be multiplied indefinitely, as we can come up with examples with all sorts of complexity.[7] Views like **CTEP** which place the degree of credences as probability in the content rather than the attitude have no need to invent new attitudes for each additional sort of seemingly logical complexity (Moss 2018; Lennertz 2021).[8]

Second, Moss argues that though belief is usually conceived of as the doxastic component of knowledge (or as the doxastic state entailed by it), many of the features of knowledge involving beliefs hold of credences as well. For instance, some credences have features that look like factivity, safety, and sensitivity, and they can be Gettiered. So, she concludes that credences can constitute knowledge (2013). A simple explanation of why this is so is that credences just are beliefs of a certain sort—the most popular version of **CTEP**. If that were so, then

7. A less obvious but more promising response doesn't multiply credal attitudes. Instead, it starts with the posit of an entire credal state and conceives of ascribing the target thought as imposing a constraint on that credal state. I'm unsure whether such a position properly individuates credal attitudes and whether it can adequately represent nonprobabilistic agents, but exploring these questions would take us beyond this paper.

8. The embedding data aren't always so straightforward, for instance, with so-called epistemic contradictions and their peculiar behavior under suppositional verbs and in the antecedents of conditionals (Yalcin 2007), and with a number of interesting embedding phenomena (Moss 2018). Some phenomena push us toward a contextualist picture, where a sentence of the form 'P is likely' can be used to express different propositions in different contexts (some data presented in Moss 2018), while others push away from that (Yalcin 2007; other pieces of data presented in Moss 2018).

A contextualist interpretation of epistemic terms like 'likely' and 'probably' pairs naturally with **CTEP** (as the proposition my thought is about may be sensitive to my changing evidence, as well as other features of my context). Much of the related epistemic modal literature on contextualism has focused on the "lost disagreement problem" (Egan, Hawthorne, & Weatherson 2005; von Fintel & Gillies 2011; Dowell 2011; Moss 2018: 21–22). Applied to **CTEP**, this is the worry that we can't explain the disagreement between A, who has confidence 75% that it will rain, and B, who has confidence 25% that it will rain. This is because it is natural to think that, according to **CTEP**, A's confidence is a belief about the evidential probability of rain given *A's* evidence and B's confidence is a belief about the evidential probability of rain given *B's* evidence. Since their beliefs are consistent, **CTEP** doesn't predict that they disagree in virtue of their varying degrees of confidence; but, the objection goes, they do disagree. Lennertz (2023: §3) discusses how resources from the literature about contextualism about epistemic modals could be applied to this problem for **CTEP**. Buchanan and Dogramaci (forthcoming) defend **CTEP** by pairing it with relativism, rather than contextualism. Most importantly, some of these contextualism-related problems for **CTEP** involve embedding and others, like the one we've just discussed, don't. So, they are best thought of as an independent challenge to **CTEP** (of the sort already mentioned in fn 3) and not as undercutting this first motivation in favor of **CTEP**.

there would be no mystery why they, just like other sorts of beliefs, could be knowledge (Hawthorne & Stanley 2008; Weisberg 2013; Moon & Jackson 2020: 661–662).

No mystery, it seems, except that for a belief to be knowledge, it must be true. And it might seem mysterious to us how there could be objectively true claims about evidential probabilities. What is the probability, given our evidence, that it rained in Rome on January 1st of the year 0? What is the probability of this proposition given no evidence at all? If propositions about evidential probabilities have truth values, there are answers to these questions.[9] This is all a way of noting that what I've stated as this second motivation is only as strong as our confidence in there being objective facts about evidential probability claims. I am moderately optimistic, though I won't argue for this here (see Climenhaga 2020; 2024; also see Buchanan & Dogramaci forthcoming for the view that evidential probability claims have truth conditions that are assessment sensitive in the sense of MacFarlane 2014).

The third potential prima facie advantage for **CTEP** goes as follows: It is commonly held that the truths of probability are norms on credences. For instance, it seems irrational to be both 75% confident of a proposition and 75% confident of its negation. There is a straightforward argument for **CTEP** that easily explains why norms like this hold; it is because (i) the contents of one's thoughts should be consistent and (ii) contents that violate the rules of probability are inconsistent (Moss 2018: ch. 1; Buchanan & Dogramaci forthcoming: 27–29).[10] The key feature of this explanation is **CTEP**'s claim that credences are fundamentally thoughts with probability-involving propositions as the *contents* of the attitudes. Such an explanation doesn't succeed if one thinks that the degree or strength of a credence isn't located in its content.

It is controversial whether this is a good argument. While we commonly ascribe thoughts as being about evidential probabilities (Buchanan & Dogramaci forthcoming), some object that we cannot simply assume that the folk concept of evidential probability (as it features in such thoughts) has the structure of a prob-

9. Climenhaga claims that the challenge here for the supporter of a view like **CTEP** may be overstated by pairing the view that there are true claims about evidential probabilities with a number of auxiliary claims that a **CTEP** theorist need not be committed to: that the evidential probability of a proposition is "metaphysically necessary, knowable a priori, unique, and point-valued" (2024: 156).

10. I've referred to Moss's work (2013; 2018) in all three of these considerations in favor of **CTEP**, but Moss herself rejects **CTEP**. Nonetheless, her view is more like **CTEP** than other detractors. This is because she thinks that credences are beliefs—which is consistent with **CTEP**—and that their contents are probabilistic in some way—so also says **CTEP**. Moss and **CTEP** differ, however, in what they think the contents of those beliefs are like; **CTEP** construes them as ordinary propositions with evidential probability as a constituent, while Moss rejects this, instead making sense of them as sets of objects that she calls "probability spaces" (2018). So, many of Moss's arguments support **CTEP** though she ultimately rejects the view.

ability function in the mathematical sense (so that this folk concept obeys the probability axioms, like additivity). This assumption, objectors argue, requires support of the same sort that is required of those who reject **CTEP** but wish to maintain something like the rules of probabilities as norms on confidence. Those who reject **CTEP** have devised ingenious but controversial arguments to support probabilistic norms on credences (Ramsey 1926/2011; de Finetti 1937; Jeffrey 1965; Joyce 1998). It would undermine this prima facie reason in favor of **CTEP** if we had to give an argument like one of those to show that the contents of our thoughts about evidential support have probabilistic structure. I don't have space to adjudicate this issue here. What I can say is that if there are successful arguments that the ordinary, folk concept of probability that we have thoughts about has the structure of mathematical probabilities,[11] then **CTEP** has a straightforward explanation of the norms on credences. And that would be an advantage of the view.

Moon and Jackson (2020: 659–662) and Buchanan and Dogramaci (forthcoming: 21–26) mention some additional considerations in favor of **CTEP**. One is the claim that thoughts about probabilities have the same functional role as credences in important respects (Moon & Jackson 2020: 659–660). For instance, it makes no difference when using decision theory to decide how to act (or to evaluate others' actions) whether one is conceiving of the relevant doxastic component as a basic credence or a thought about probability. However, this point about sameness of functional role strikes me as a condition of adequacy on **CTEP** rather than a reason in its favor. Indeed, it is precisely this condition of adequacy that our central objection to **CTEP** challenges.

3. The Inscrutable Evidence Argument

The Inscrutable Evidence Argument is the following common way of arguing that credences "are not merely full beliefs about what is likely given your evidence" (Moss 2018: 2). Though others have discussed or responded to similar ideas (Ross 2006: 188–189; Eriksson & Hájek 2007: 206–207; Easwaran 2015: 659; Carr 2019: 47; Moon & Jackson 2020: 665–666), Konek gives the version of the argument that I'll focus on:[12]

11. It isn't enough that the folk concept of probability has the right mathematical structure or even that it has this structure necessarily. To support the claim that **CTEP** explains the *irrationality* of violating the probability axioms, it must be *a priori* that this concept has the structure of mathematical probability. And this implies, perhaps implausibly, that theorists who reject additivity as a norm on confidence are conceptually confused. Thanks to an anonymous reviewer for pressing me on these points.

12. Thanks to Edward Elliot for originally drawing my attention to this sort of case.

> Amy has conclusive evidence about whether her package was delivered or not — perhaps a well-informed mathematician told her that it was delivered if and only if a particular mathematical proposition is true. And she knows that her evidence is conclusive. She knows that a perfectly rational agent with her evidence would have either credence 0 or 1 in the mathematical proposition, and accordingly have either credence 0 or 1 that her package was delivered. But Amy cannot tell which way her evidence points, so to speak, due to her uncertainty about the mathematical proposition. In that case … she might reasonably use this information to weigh the two hypotheses about the valence of her evidence and arrive at some middling credence about whether her package was delivered. But she should not fully believe that the evidential probability takes some middling value. (2016: 514)

Let's flesh out the example. The largest known prime number at the time of writing is $2^{82,589,933}-1$. Suppose that Amy knows this and knows that every prime other than 2 and 5 is odd and does not end in 5. So, she knows that the last digit of the largest prime is either 1, 3, 7, or 9. Furthermore, she knows that her evidence conclusively determines what the last digit is. This is because her evidence entails that it is whatever one gets by multiplying 2 by itself 82,589,933 times and then subtracting 1, and, since she is competent with multiplication and subtraction, her evidence entails what that result is. But she hasn't done the calculation. Now suppose she knows that her package was delivered if and only if the last digit of the largest prime is 1 or 3 (perhaps the Post Office has a supercomputer which will have sorted the package into the delivery bin by today if and only if the computer has found that the last digit of the largest prime is 1 or 3).

This is a case where Amy may rationally have a mismatch between her degree of credence and her beliefs about evidential probabilities. She may have credence of degree .5 that her package was delivered, since she has a credence of degree .5 that the last digit of the largest prime ends in 1 or 3. But she does not believe that the evidential probability that her package was delivered is 50%, because she does not believe that the evidential probability that the largest prime ends in 1 or 3 is 50%. Instead, she thinks the evidential probability that her package was delivered is either 0% or 100% (though she doesn't know which), since she thinks that the evidential probability that the largest prime ends in 1 or 3 is either 0% or 100% (though she doesn't know which). So, a credence of degree n in a proposition cannot, in general, be a belief that the evidential probability of that proposition is n. This looks like bad news for **CTEP**.

Now that we've seen the Inscrutable Evidence Argument, we can remind ourselves of the point made in the introduction. The Inscrutable Evidence Argu-

ment does not spring from doubts about the existence of a notion of evidential probability. Instead, it grants the proponent of **CTEP** a notion of evidential probability and simply argues that one can have a credence of strength n in a proposition without having the corresponding thought that the evidential probability of that proposition is n. It is this argument that I'll respond to.

Many theorists claim that something like the Inscrutable Evidence Argument applies not just to evidential probabilities, but to any non-subjective notion—i.e. any notion not grounded in credences (Ross 2006: 189; Eriksson & Hájek 2007: 206–207; Easwaran 2015: 659; Carr 2019: 47). For instance, Amy does not believe that the objective chance that the package was delivered is 50% or that the relative proportion of package-was-delivered worlds to all worlds is 50%. But she does have a 50% credence that the package was delivered. Thus, the reasoning goes, credences are not beliefs about probabilities, evidential or otherwise.

4. Credences and Acceptance

As far as I know, Moon and Jackson (2020: 665–666) offer the only direct response to the Inscrutable Evidence Argument (Buchanan & Dogramaci forthcoming: 15–16 endorse their response). Rather than focusing on their preferred solution, I'll develop an idea they mention in passing that I find more attractive (2020: 666). What Amy's case shows, I think, is that we were focusing on the wrong kind of thought—belief.

Notice that the notion of belief does not appear in the statement of **CTEP**:

> **Credences are Thoughts about Evidential Probabilities (CTEP)**: Every credence is fundamentally a thought about the evidential probability of a proposition.

As far as **CTEP** goes, a credence could be a different sort of thought about a probability-involving proposition. So, the Inscrutable Evidence Argument doesn't definitively show that there is something irreparably defective with the idea that credences are thoughts about probabilities. Rather, I take the lesson to be that what appear to be credences cannot always be *beliefs* about probabilities.

Let's consider the Inscrutable Evidence Argument in the following way. We've agreed that Amy does not believe that the evidential probability that her package was delivered is 50%. Nonetheless, she appears to have a credence of degree .5 that her package was delivered. Why does it appear that she has that credence? Because if the opportunity arises, she will act in the ways that someone with that credence would act. For instance, if offered a bet on whether her

package was delivered, it would be reasonable for Amy to take it at 1:1 or better odds. Or suppose that Amy is on vacation, and she has two desires: first, that her package, if delivered, not wait outside on her porch and second, that she does not bother her neighbor to check for and fetch her package. But suppose that the former desire is stronger than the latter. Then it makes sense for her to call her neighbor to check for the package and fetch it, if it is there. These decisions and actions are explicable if Amy has a credence of degree .5 that her package was delivered. Her rational inquiries, decisions, and actions have the hallmarks of someone with that credence.

I propose to explain why Amy reasons, decides, and acts as if she has that credence in terms of an attitude different from belief. Different authors give the attitude different names. Bratman calls it *acceptance in a context* and *taking for granted in a context* (1992). Cohen also calls it *acceptance* and *taking as a premise* (1989). Van Fraassen also discusses an attitude of *acceptance* (1980). Others call it *reliance* (Holton 1994; Alonso 2014; 2016), *supposition* (Kelly 2002: 180), and *commitment to the truth of a proposition* (Foley 1992). I'll call it acceptance. The difference in names suggests that we don't all share an intuitive grasp of some single concept here (as opposed to concepts of belief and confidence). Indeed, with these different names are slightly different concepts of acceptance,[13] but I think there is enough in common to be confident that there is some important core being explicated by these authors. And different explications can be more useful for different purposes.

My explication follows my earlier work, where I also use acceptance to address an issue related to credences—how to decide in cases where one has imprecise credences (Lennertz 2022). In that work, I draw on Bratman and Alonso in stressing how acceptance plays a similar role to belief in explaining decision and action. Alonso, again calling the attitude *reliance*, says that "relying on *p* involves a disposition to, among other things, deliberate on the basis of *p*, plan on the basis of *p*, act on the basis of *p*, and draw conclusions from *p*" (2014: 166). Nonetheless, acceptance is not belief. Accepting a proposition does not require commitment to the truth of what is accepted and a proposition can be accepted in a specific context for the purposes of inquiry.[14] For example, you might accept Newton's laws of motion in order to calculate where a launched water balloon

13. For instance, van Fraassen's claim that accepting a theory implies a commitment to a research program (1980: 4) suggests much more stability than the Bratmanian way of thinking of acceptance that I'll be following.

14. Bratman more fully contrasts believing and accepting as follows:

> Belief has four characteristic features: (a) it is . . . context-independent; (b) it aims at the truth of what is believed; (c) it is not normally in our direct voluntary control; and (d) it is subject to an ideal of agglomeration. In contrast, what one accepts/takes for granted (a) can reasonably vary . . . across contexts; (b) can be influenced by practical considerations that are not themselves evidence for the truth of what is accepted; (c) can be subject to our

will land, even though you don't believe these propositions, thinking, instead, that Einstein's or a yet-to-be-discovered theory is true (Lennertz 2022: 210). As we have seen, Amy doesn't believe that the evidential probability of her package being delivered is *n*, for some particular *n*. But in certain situations, she may need to act in ways where the probability that her package was delivered is relevant. To do so she can accept that it is 50% probable that her package was delivered. This explains why she would bet at 1-1 odds and why she would call her neighbor to check for and fetch her package.

Bratman's model of reasoning, decision, and action can help explain the role of acceptance:

> An agent's beliefs provide the default cognitive background for further deliberation and planning. … But practical reasoning admits of adjustments to this default cognitive background, adjustments in what one takes for granted in the specific practical context … [to yield] one's *context-relative adjusted cognitive background.* And it is this adjusted cognitive background that, together with one's plans, frames one's further practical deliberation. To be accepted in a context is to be taken as given in the adjusted cognitive background for that context. If one has a relevant all-or-none, context-independent belief that *p,* and this belief is not bracketed, then one accepts that *p* in that context. … But one may also accept in a context propositions one does not believe in a context-independent way. And one may believe that *p* in a context-independent way and yet not accept that *p* in a certain context… . So the explanation of decision and action will in general need to appeal to a cognitive attitude [acceptance] that itself neither guarantees nor is guaranteed by corresponding belief. (Bratman 1992: 10–11)

Whether we subscribe to this exact model of reasoning and decision-making, it can help us better understand the kind of role that some theorists think acceptance plays. This role appears consistent with the role played by Amy's credence of 50% that her package was delivered.

What are the norms on acceptance? If it needn't be directed at the truth, as the water balloon and package cases show, it might look as though anything goes. Perhaps, I can rationally accept a proposition just because doing so amuses me or because I like the sound of expressing it out loud. So, it might seem that Amy could, for instance, in deciding whether to call her neighbor, reasonably accept that an evil demon has put a curse on her package. Or per-

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direct voluntary control; and (d) is not subject to the same ideal of agglomeration across contexts. So acceptance in a context is not belief. (1992: 9)

haps you could reasonably accept, in your inquiry into where the water balloon will land, that there is no gravity. But such acceptances don't intuitively strike us as rational. There are some norms on acceptance; not just anything goes. I'm going to take on board Alonso's useful suggestion: acceptance "constitutively aims at … providing cognitive guidance that is sensible or correct from the standpoint of relevant ends, values and so on" (2014: 169; see also 2016). Here cognitive guidance is a role played in inquiry, so the relevant ends or values must be those of some sort of inquiry. I'll then simplify Alonso's point by saying that the aim of acceptance is to make progress toward successful inquiry—either theoretical inquiry into what is the case or practical inquiry into what to do. But Alonso realizes that acceptance can further the goal of making progress in inquiry whether or not acceptance aims to track the truth (2016: 326–327). So, if a proposition is accepted with the goal of making progress in one's inquiry, then that attitude of acceptance will be rational, even if it doesn't represent the truth and the agent knows this. For instance, you can expect to progress in your inquiry into where the water balloon will land if you accept Newton's laws of motion, but not if you accept that there is no gravity. And Amy can expect to progress in her inquiry into whether to call her neighbor to check for and fetch her package if she accepts that it is 50% likely that her package was delivered but not typically if she accepts that an evil demon has put a curse on her package.

I will make three points about acceptance before directly addressing its connection with the thesis **CTEP**. First, I've contrasted acceptance and belief, while also saying that acceptance is a state that aims at making progress in inquiry. But relying on only truths is a surefire way to avoid going astray in inquiry. So why would we ever accept a proposition that we don't think is true—i.e., where we either believe that it isn't true or are undecided about it? Stalnaker gives an attractive answer: "Accepting a certain false proposition may greatly simplify an inquiry, or even make possible an inquiry not otherwise possible, while at the same time it is known that the difference between what is accepted and the truth will have no significant effect on the answer to the particular question being asked" (1984: 93). Consider our example of accepting Newton's laws in inquiring about the water balloon's landing spot. You don't believe that those laws are true, but accepting them (rather than, say, Einstein's) greatly simplifies your inquiry. And all the while, you know that there is no significant effect on the answer to the question being asked.

Second, what can be expected to advance inquiry toward success will be different in different inquiries; indeed, it may be different when aiming to answer the same question in different contexts. For instance, suppose that Amy has a friend who she thinks will have great advice about whether she should call her neighbor to check about the package. But this person is convinced that an evil

demon has put a curse on Amy's package and won't offer her that advice unless Amy accepts in their inquiry that that is so. In such a (strange) case, it *is* reasonable for Amy to accept that an evil demon has put a curse on her package, since she can expect that this will advance inquiry toward success (though, of course, it would still be unreasonable for Amy to believe this).[15] This is a different kind of example in line with Stalnaker's insight—that an inquiry like this is only possible (this is not merely a case of simplification) if one accepts some proposition they take to be false.

Stalnaker focuses on cases where the answer that one gets by accepting a false proposition is known to be the same or similar to what one would get by reasoning according to what is true. My third point is that this doesn't exhaust the sorts of scenarios in which one might reasonably accept a proposition in inquiry. Suppose that Zelda is trying to calculate the tip owed on a bill, which will then be split among her and her four dinner companions. And suppose that she has very idiosyncratic and complex views about what the correct tip is in each scenario. She thinks that it is partly determined by the server's responsiveness, cheer, and helpful recommendations, and partly by the difficulty of delivering what was ordered (drinks should be tipped at a lower rate than food, while hot food should be tipped at a higher rate than cold food since it requires more urgency, that is, unless the cold food can get soggy, etc.). Zelda calculates according to these complex views and concludes that the total tip is $45. She checks by calculating again and concludes that the total tip is $55. She does this a couple of times, continuing to alternate between those two values. Finally, somewhat frustrated and running out of time on her parking meter, Zelda simply accepts that the tip is $50 and tells each person that they owe $10 on top of their bill. Accepting that the tip is $50 for the purpose of figuring out what each of her companions owes seems reasonable, even though she knows that it doesn't yield the correct answer (which she believes is either $45 or $55).[16]

This case is structurally analogous to the main example of this paper—where Amy knows that the evidential probability that her package was delivered is either 0% or 100%, but she can't tell which. She reasonably accepts that it is 50%, even though she knows this isn't true and even though she knows it may

15. Note that in the even stranger case where her friend insists that Amy believe—and not just accept—that an evil demon put a curse on her package, it is still unreasonable for Amy to believe this. The reasonableness of accepting a proposition may depend on the consequences of doing so for inquiry and action, but the reasonableness of believing a proposition does not. See (Foley 1992: 49–50, fn 30) for a similar example and observation about how strange such possible cases are.

16. Ullman-Margalit says, "The significant factor in the description of the situation is that the person concerned is constrained to take action, some action, before his or her deliberation can be terminated: the time to act precedes the rational resolution of the deliberation process" (1983: 154–155). While I agree time plays an important factor here, I think that Zelda does resolve her deliberation process rationally, at least given the context's constraints.

lead to different conclusions in her reasoning (both about what is the case and what to do) than those she would reach if she accepted (or believed) the truth. For instance, if the probability that her package was delivered really is 0% but she continues to accept that it is 50%, then her acceptance would lead her to do things that the truth wouldn't (e.g., call her neighbor, make various bets). Nonetheless, given her ignorance and the constraints on the inquiry, these actions, and the acceptance that led to them, strike us as reasonable. Thus, as I've suggested, it is reasonable to understand why Amy is disposed to act and bet as she does in the original package case in terms of her state of acceptance. This state plays the explanatory role that is played by a credence of degree .5 that her package was delivered.

The natural conclusion might seem to be that credences are acceptances of evidential probability-involving propositions. I have been careful, however, to give the guiding insight of my response to the Inscrutable Evidence Argument without yet deciding on this central detail. And I've left and will continue to leave the following question open:

> *Question*: Is a state of accepting an evidential probability-involving proposition a credence?

Remember the original statement of **CTEP**:

> **CTEP**: Every credence is fundamentally a thought about the evidential probability of a proposition.

Can the thought mentioned in **CTEP** be acceptance? Or could we make sense of my response while retaining the more conservative position that only beliefs about probability-involving propositions count as credences? As I'll discuss in what follows, either way of answering *Question* makes for a plausible picture that is consistent with **CTEP**, though we will see some reasons to lean one way rather than the other.

Suppose that we answer *Question* affirmatively; accepting an evidential probability-involving proposition is having a credence. Then Amy's acceptance that the probability that her package was delivered is 50% just is her credence of degree .5 that her package was delivered. This response honors the tradition of treating credence as closely linked to one's behavior. As we've seen, acceptance is an attitude concerned primarily with how one inquires, decides, and acts (and not always with representing what is true). This viewpoint reflects the long tradition of regarding credences as defined in terms of an agent's dispositions to act (or bet) or as measured by probing an agent's dispositions to act (or bet) (de Finetti 1937). On this picture, what leads one to act

or bet in a particular way is the agent's credence, and acceptance of a probability-involving proposition serves that role. We can explain why Amy agrees to the bets she does and why she calls her neighbor to check for and fetch her package in terms of her accepting that the probability that her package was delivered is 50%. According to the theoretical viewpoint expressed in this paragraph, it then makes sense to say that her credence of degree .5 that her package was delivered is this state of acceptance. This makes clear that **CTEP** and the Inscrutable Evidence Argument are compatible, as long as we don't insist that credences are *beliefs* about probabilities. In allowing that credences may also be different attitudes about probabilities—acceptances—we have an explanation of why Amy bets at the odds she does and why she acts as she does, which goes by way of her credence.

What if we were to give a negative answer to *Question*, saying that a credence of degree .5 that the package was delivered cannot be the attitude of accepting that the evidential probability that the package was delivered is 50%? Suppose, instead, that we affirm a more restrictive version of **CTEP**:

> **CBEP**: Every credence is fundamentally a *belief* about the evidential probability of a proposition.

Then, a credence of degree .5 that the package was delivered must be a belief that the probability that the package was delivered is 50%. Affirming **CBEP** is one way of affirming **CTEP**, but it denies that Amy has a credence of degree .5 in the case of the Inscrutable Evidence Argument. This position can be paired with a plausible error theory that explains why it is natural for those who consider the case to think that Amy does have a credence of degree .5. This is because she inquires, decides, and acts as if she does have that credence, which makes sense, since she accepts (though doesn't believe) that the evidential probability that her package was delivered is 50%. So, we might mistake her attitude of acceptance for a genuine credence even though it isn't. For theorists who take this route, there is something extra required to be a credence. This group includes theorists who see credences not merely as the bases of decision and action, but as something more cognitive, like estimates of the truth-value of a proposition (Joyce 2005). Such estimates may coincide with beliefs about evidential probability, but not necessarily acceptances, in cases where belief and acceptance come apart. Nonetheless, when focusing on questions about reasoning, decision, and action, we could see how we might mistake accepting a probability-involving proposition for a credence (= belief in a probability-involving proposition), since they have the same features with respect to those domains.

We'll now revisit the potential advantages of **CTEP** that we surveyed in §2 to see whether either answer to *Question* (or both) can retain those advantages.

With just a bit of thought, we can see that **CBEP**, where we gave an error theory and affirmed that credences are beliefs about probability-involving propositions, retains these advantages. Since we were implicitly thinking of beliefs in §2 when we discussed the advantages, nothing changes. In what follows I will discuss whether the advantages persist for the view where we say that a credence can be an *acceptance* of a probability-involving proposition. The result is not as straightforward, though I think it is possible to be optimistic overall.

The first motivation for **CTEP** was that it offers an ordinary and straightforward explanation of complex versions of credences. Our example was Amy's thought that it is 50% likely that her package was delivered if it is at least twice as probable that her mailman returned from vacation as it is that the post office lost the package. We said that there was a simple explanation of this credence if we took credences to be beliefs in probability-involving propositions. It is a belief with the content: It is 50% likely that her package was delivered if it is at least twice as probable that her mailman returned from vacation as it is that the post office lost the package. The key to this explanation was that it could explain *seeming* logical complexity as *actual* logical complexity of the contents of the thoughts. Nothing about this explanation relied, either explicitly or implicitly, on the attitude toward such contents being belief. So, this explanation is just as ordinary and straightforward if the thought involved is acceptance, since this sort of thought could be an attitude of acceptance with the same content that the belief had.

The second advantage—that **CTEP** can explain why credences constitute knowledge—seems worrisome. It seems essential that the relevant thought be belief, since belief, and not acceptance, is commonly taken to be a component of (or at least entailed by) knowledge. For instance, we don't want to say, in the case of the water balloon calculation, that you know that Newtonian mechanics is correct, or, in the case of the tip, that Zelda knows that the tip is $50. However, by reflecting on the Inscrutable Evidence Argument, we can see that cases where acceptance plays a role are also those where we won't ascribe knowledge. That is, though we tend to ascribe to Amy a credence of degree .5 that the package was delivered, we are not inclined to ascribe to her knowledge that it is 50% likely that the package was delivered. This is because she knows that the evidential probability that the package was delivered is either 0% or 100%, though she doesn't know which. The issue of acceptance vs. belief is irrelevant here, since the object of the purported knowledge isn't even true (indeed that's the very reason for thinking the attitude involved is acceptance). In fact, the same is true of the more standard acceptance cases we've discussed. Acceptance aside, you can't know that Newtonian mechanics is correct, nor can Zelda know that the tip is $50, because these things aren't true.

The final potential advantage was that **CTEP** could straightforwardly explain why the norms on credences include obeying the laws of probability (modulo caveats about whether our folk concept of probability has the features of math-

ematical probability). It explains the norms as arising from two claims: (i) the contents of one's thoughts should be consistent and (ii) contents that violate the laws of probability are inconsistent. The sort of thought at issue has no effect on (ii), but we must ask whether (i) was plausible merely because we were implicitly considering belief as our type of thought. Indeed, (i) does not hold for thoughts like entertaining and considering, which need not be consistent to be rational. Does (i) hold for acceptance?

At first it might seem the answer is clearly "yes." We can see why both through individual cases and general considerations about acceptance. For instance, consider the case of Zelda calculating the tip. Surely, if it is possible for her to both accept that the tip is $45 and accept that it is $55, it would be irrational for her to do so. Our general picture of acceptance explains why. Remember that acceptance "constitutively aims at … providing cognitive guidance that is sensible or correct from the standpoint of relevant ends, values and so on" (Alonso 2014: 169). Accepting inconsistent propositions opens the possibility of inconsistent guidance. So, **CTEP**, even on the acceptance construal, seems to retain the advantage of straightforwardly explaining the norms on credences.

However, a reviewer reasonably objects that though accepting inconsistent propositions may lead to inconsistent guidance, it doesn't always do so. Consider, for instance, a scenario where Amy accepts that it is 45% likely that her package was delivered and also accepts that it is 55% likely that her package was delivered. She has accepted inconsistent propositions. But in many cases, these inconsistent attitudes will yield the same guidance. For instance, they will both suggest that she should call her neighbor to check if the package is there. Given that these attitudes in fact give guidance that is sensible, why should we think their combination is irrational? A natural response is that what matters is not whether the combination of propositions that you accept actually yields inconsistent guidance in the context you are in but whether there is some possible context (or, perhaps, less absolutely, some realistic or nearby context) in which it yields inconsistent guidance. If there is, then you aren't safe. So, you are irrational. In the example used to press the objection, there are contexts where these give different advice. Suppose someone offers you a bet at even odds which you win if you package was delivered and which you lose otherwise. In such a case, accepting that it's 45% likely and accepting that it's 55% likely give inconsistent guidance about whether to agree to the bet. Because having these attitudes with inconsistent contents simultaneously can land you with inconsistent guidance, you should avoid having them.

I'm unsure which side of this debate is correct, and I don't have space to fully explore the issue. It rests on whether the rationality of your state of acceptance depends on whether it gives sensible guidance in your actual context vs. in merely possible (or realistic or nearby) contexts. The former position does not

make good on the third discussed advantage of **CTEP**, since the explanation of irrationality we discussed in the case of beliefs wouldn't carry over to acceptance. The latter position at least has the opportunity to retain that advantage. Though I can't fully explore or decide this issue here,[17] I now suspect this may be a reason to prefer the **CBEP** plus error theory account of credences to the view where acceptances can count as credences.

In this section, we saw that the attitude of acceptance plays a central role in Amy's package case. By recognizing this role, we can undermine the force of the Inscrutable Evidence Argument, either by realizing that the relevant thought in **CTEP** is sometimes acceptance or by affirming **CBEP** and giving an error theory where acceptance of evidential probabilities and not credences explain Amy's reasoning, decisions, and actions in her context. We've also seen that the latter picture retains the advantages discussed in §2, while the former can as well, depending on one's auxiliary commitments about the rationality constraints on attitudes of acceptance.

5. Conclusion

In this paper I sketched a response to the popular Inscrutable Evidence Argument. The key to this response is its use of acceptance of evidential probability-involving propositions to explain how Amy inquires, decides, and acts. I've shown two plausible ways to implement this sort of response, each of which retains **CTEP**. Of course, **CTEP** may still be incorrect, and there may be arguments that establish this. But what I have shown is that one of the most common arguments meant to do so—the Inscrutable Evidence Argument—is not one of them.

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17. Here are some informal considerations: according to a Bratmanian view of acceptance, it can be rational to accept a proposition in one context and accept its opposite in another. If that is so, then it seems varying contexts can change what is rational, suggesting it depends on your actual context or at least those like it. Furthermore, a common way to convince yourself that it is rational to accept something you believe to be false is to convince yourself that, in your actual context, there will be no problem with the guidance given. This again suggests that the rationality of acceptance depends on your actual context.

References

Alonso, Facundo M. (2014). What is Reliance? *Canadian Journal of Philosophy*, *44*(2), 163–183. https://doi.org/10.1080/00455091.2014.919722

Alonso, Facundo M. (2016). Reasons for Reliance. *Ethics*, *126*(2), 311–338. https://doi.org/10.1086/683536

Bratman, Michael E. (1992). Practical Reasoning and Acceptance in a Context. *Mind*, *101*(401), 1–16. https://doi.org/10.1093/mind/101.401.1

Buchanan, Ray and Sinan Dogramaci (forthcoming). Belief about Probability. *Journal of Philosophy*.

Carr, Jennifer Rose (2019). Subjective Probability and the Content/Attitude Distinction. In Tamar Szabó Gendler and John Hawthorne (Eds.), *Oxford Studies in Epistemology* (Vol. 6, 35–57). Oxford University Press.

Christensen, David (2004). *Putting Logic in its Place: Formal Constraints on Rational Belief*. Oxford Academic. Retrieved from https://doi.org/10.1093/0199263256.001.0001

Climenhaga, Nevin (2020). The Structure of Epistemic Probabilities. *Philosophical Studies*, *177*(11), 3213–3242. https://doi.org/10.1007/s11098-019-01367-0

Climenhaga, Nevin (2024). Epistemic Probabilities Are Degrees of Support, Not Degrees of (Rational) Belief. *Philosophy and Phenomenological Research*, *108*(1), 153–176.

Cohen, L. Jonathan (1989). Belief and Acceptance. *Mind, 98*(391), 367–389. https://doi.org/10.1093/mind/XCVIII.391.367

de Finetti, Bruno (1937). La Prévision: Ses Lois Logiques, Ses Sources Subjectives. *Annales de l'Institut Henri Poincaré*, *7*(1), 1–68.

Dogramaci, Sinan (2018). Rational Credence Through Reasoning. *Philosophers' Imprint*, *18*(11), 1–25. http://hdl.handle.net/2027/spo.3521354.0018.011

Dowell, J. L. (2011). A Flexible Contextualist Account of Epistemic Modals. *Philosophers' Imprint*, *11*(14), 25. https://quod.lib.umich.edu/p/phimp/3521354.0011.014/1

Easwaran, Kenny (2015). Formal Epistemology. *Journal of Philosophical Logic*, *44*(6), 651–662. https://doi.org/10.1007/s10992-015-9350-1

Egan, Andy, John Hawthorne, and Brian Weatherson (2005). Epistemic Modals in Context. In Gerhard Preyer and Georg Peter (Eds.), *Contextualism in Philosophy* (131–170). Oxford University Press.

Eriksson, Lina and Alan Hájek (2007). What Are Degrees of Belief? *Studia Logica*, *86*(2), 183–213. https://doi.org/10.1007/s11225-007-9059-4

Foley, Richard (1992). *Working Without a Net: A Study of Egocentric Epistemology*. Oxford University Press.

Frankish, Keith (2009). Partial Belief and Flat-Out Belief. In Franz Huber and Christoph Schmidt-Petri (Eds.), *Degrees of Belief* (*Synthese Library*, Vol. 342, 75–93). https://doi.org/10.1007/978-1-4020-9198-8_4

Goldstein, Simon (2019). Triviality Results for Probabilistic Modals. *Philosophy and Phenomenological Research*, *99*(1), 188–222. https://doi.org/10.1111/phpr.12477

Hawthorne, John and Jason Stanley (2008). Knowledge and Action. *Journal of Philosophy*, *105*(10), 571–590. https://doi.org/10.5840/jphil20081051022

Holton, Richard (1994). Deciding to Trust, Coming to Believe. *Australasian Journal of Philosophy*, *72*(1), 63–76. https://doi.org/10.1080/00048409412345881

Jackson, Elizabeth (2022). Why Credences Are Not Beliefs. *Australasian Journal of Philosophy*, *100*(2), 360–370. https://doi.org/10.1080/00048402.2020.1867210

Jeffrey, Richard (1990). *The Logic of Decision* (Vol. 2). University of Chicago Press.
Joyce, James M. (1998). A Nonpragmatic Vindication of Probabilism. *Philosophy of Science*, *65*(4), 575–603.
Joyce, James M. (2005). How Probabilities Reflect Evidence. *Philosophical Perspectives*, *19*(1), 153–179. https://doi.org/10.1111/j.1520-8583.2005.00058.x
Kelly, Thomas (2002). The Rationality of Belief and Some Other Propositional Attitudes. *Philosophical Studies*, *110*(2), 163–196. https://doi.org/10.1023/A:1020212716425
Konek, Jason (2016). Probabilistic Knowledge and Cognitive Ability. *Philosophical Review*, *125*(4), 509–587. https://doi.org/10.1215/00318108-3624754
Lance, Mark Norris (1995). Subjective Probability and Acceptance. *Philosophical Studies*, *77*(1), 147–179. https://doi.org/10.1007/BF00996316
Lennertz, Benjamin (2021). Noncognitivism and the Frege-Geach Problem in Formal Epistemology. *Philosophy and Phenomenological Research*, *102*(1), 184–208.
Lennertz, Benjamin (2022). Imprecise Credences and Acceptance. *Ergo an Open Access Journal of Philosophy*, *9*(8), 200–229. https://doi.org/10.3998/ergo.2264
Lennertz, Benjamin (2023). Credences are Beliefs about Probabilities: A Defense from Triviality. *Erkenntnis*, *89*, 1235–1255. https://doi.org/10.1007/s10670-022-00581-3
MacFarlane, John (2014). *Assessment Sensitivity: Relative Truth and Its Applications*. Clarendon Press ; Oxford University Press.
Maher, Patrick (1986). The Irrelevance of Belief to Rational Action. *Erkenntnis*, *24*(3), 363–384. https://doi.org/10.1007/BF00205021
Moon, Andrew and Elizabeth Jackson (2020). Credence: A Belief-First Approach. *Canadian Journal of Philosophy*, *50*(5), 652–669. https://doi.org/10.1017/can.2020.9
Moss, Sarah (2013). Epistemology Formalized. *Philosophical Review*, *122*(1), 1–43. https://doi.org/10.1215/00318108-1728705
Moss, Sarah (2018). *Probabilistic Knowledge*. Oxford University Press. https://doi.org/10.1093/oso/9780198792154.001.0001
Price, Huw (1986). Conditional Credence. *Mind, 95*(377), 18–36. https://doi.org/10.1093/mind/XCV.377.18
Ramsey, F. P. (1926/2011). Truth and probability. In Antony Eagle (Ed.), *Philosophy of Probability: Contemporary Readings* (48–71). Routledge.
Ross, Jacob (2006). *Acceptance and Practical Reason*. Rutgers University.
Russell, Jeffrey Sanford and John Hawthorne (2016). General Dynamic Triviality Theorems. *Philosophical Review*, *125*(3), 307–339. https://doi.org/10.1215/00318108-3516936
Schroeder, Mark (2018). Getting Perspective on Objective Reasons. *Ethics*, *128*(2), 289–319. https://doi.org/10.1086/694270
Staffel, Julia (2013). Can There Be Reasoning with Degrees of Belief? *Synthese*, *190*(16), 3535–3551. https://doi.org/10.1007/s11229-012-0209-5
Stalnaker, Robert (1984). *Inquiry*. MIT Press.
Ullman-Margalit, Edna (1983). On Presumption. *Journal of Philosophy*, *80*(3), 143–163.
van Fraassen, Bas C. (1980). *The Scientific Image*. Oxford Academic. Retrieved from https://doi.org/10.1093/0198244274.001.0001
von Fintel, Kai and Anthony S. Gillies (2011). 'Might' Made Right. In Andy Egan and Brian Weatherson (Eds.), *Epistemic Modality* (108–130). Oxford University Press.
Weisberg, Jonathan (2013). Knowledge in Action. *Philosophers' Imprint*, *13*(22), 1–23. https://doi.org/2027/spo.3521354.0013.022

Williamson, Timothy (2000). *Knowledge and its Limits*. https://doi.org/10.1093/019925656X.001.0001

Yalcin, Seth (2007). Epistemic Modals. *Mind*, *116*(464), 983–1026. https://doi.org/10.1093/mind/fzm983

Yalcin, Seth (2011). Nonfactualism about Epistemic Modality. In Andy Egan and Brian Weatherson (Eds.), *Epistemic Modality* (295–332). Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199591596.001.0001